



Broadway Boulevard, Euclid to Country Club

REVISED DRAFT PERFORMANCE MEASURE DEFINITIONS AND ASSESSMENT

July 18, 2013

Several revisions and updates have been made to the performance measures and assessment methodology following the June 20th CTF meeting. These changes have been made in response to comments from the CTF at that meeting. Further work by the design team has refined how to communicate the assessments to the public.

There are four tables attached to this memorandum, and they are listed here in the order they should be reviewed:

- Performance Measure Definitions and Assessment Methodology Table
- Assessment of Lane Configuration Alternatives (a set of sheets with these diagrams is also included)
- Assessment of Street Cross Section Elements (a set of sheets with these street element cards is also included)
- Assessment of Street Cross Section Alternatives (there have been no revisions to these since the June 20th CTF meeting, a pdf of the alternatives can be accessed using this link – http://cms3.tucsonaz.gov/files/projects/broadway/2013_06-20_PerfAssessUpdateFINAL.pdf)

The result of these revisions is a more detailed assessment that more clearly describes the factors that affect the performance of different design alternatives. This level of detail and this method for communicating the information is appropriate for discussions with the CTF and to communicate the assessment to the CTF. The design team is working on methods to distill this information so that key elements of it can be communicated to the public in the coming public meeting. The distilled information will allow the public to understand trade-offs between various goals for the project and to provide the CTF with meaningful input regarding community preferences related to street cross section design, modal emphasis, and other aspects of the Broadway project.

Performance Measure Definitions and Assessment Methodology Table

This table compiles information from the previous PowerPoint tables and third page of the previous assessment table to provide the definition for the performance measures and a discussion of the assessment methodology in a comprehensive and consistent format, all in one location. Each performance measure description provides:

- a definition
- information about the performance measure, and
- description of the method used for assessing performance.

The methodology description includes a discussion of why some of the measures cannot be assessed at the current level of alternatives design, when appropriate.

The table also lists the street cross section elements that affect the assessment of each performance measure. The three columns to the far right describe what element or combination of elements is needed to assess the performance at the current level of design and if these relate to lane configuration type, street cross sections and details, or a complete street cross section design. Some performance measures require that the full street cross section be considered in the assessment, and this is noted in the table. All performance measures that can currently be assessed are assessed for the street cross section alternatives, because the street cross sections also represent particular land configuration types and include the street cross section elements and details that are needed to assess for some performance measures.

The **blue text** in the definition and methodology section of the table is used to highlight significant text that is new since the June 20th CTF meeting. Significant changes and additions to performance measures include:

- **2a. Separation of Bikes and Arterial Traffic:** The recent bicyclist death at the Broadway and Campbell intersection has re-emphasized the importance of bicyclist safety along Broadway. An additional bike lane design option has been provided that could be used along Broadway, although the current street cross section alternatives do not use it. This is a buffered bike lane. These include an area of pavement between 18 inches and 3 feet in width that is bordered by parallel white lines with either diagonal or chevron shaped white lines within the border. The concept is to provide a buffer space between the vehicle lane and the bicycle lane. In some applications the buffer may also include plastic pylons, although pylons may not be appropriate for Broadway.
- **5a. Person Trips for Multiple Measures:** This performance measure was previously listed under the vehicular access and mobility category, but it is a multi-modal and person-trip based measure. So, a new Person Access and Mobility category has been created.
- **6e. Gateway to Downtown:** Previously this performance measure was primarily transportation based. Given comments from the CTF it has been redefined to include placemaking and visual quality considerations as well. Given that future land use and the relationship between development and the street is not determined at the current level of design, this performance measure cannot currently be assessed.
- **6g. Walkable Community:** Similar to the Gateway to Downtown measure, the Walkable Community measure's assessment relies on an understanding of future development. So, this performance measure cannot currently be assessed.
- **7c. Heat Island:** The definition and assessment methodology for this performance measure have been further clarified in response to comments from the CTF.
- **7d. Water Harvesting and Green Street Stormwater Management:** The name and definition of this performance measure has been updated to reflect the recently adopted Active Practice Guidelines for Green Streets.
- **7e. Health Benefits of Changes in Walking and Biking:** This performance measure has been renamed and redefined to clarify that the intention was to address health benefits,

not the placemaking and other factors that are addressed in the Walkable Community measure.

- **8a. Change in Economic Potential:** In response to discussions with the CTF, the design team reviewed the Economic Vitality performance measures. This performance measure was identified as one that could be assessed at the current level of design. It is assessed for short term and long term economic vitality potential. The idea being that in the longer term some or many of the remnant parcels that are left vacant after construction of the future road will be redeveloped.
- **9c. Operations and Maintenance Cost:** In response to public comment from the Broadway Coalition, this performance measure has been added and assessed.
- **10. Certainty:** Certainty was previously a single performance measure under the Sense of Place category. This was identified as being inappropriate through discussions with the CTF. As the design team began preparing a definition for a “relocated” certainty performance measure, it became clear that there are a range of perspectives about what certainty means. At this point, three separate performance measures have been defined by the design team:
 - **10a. Ability to Provide for Changing Transportation Needs**
 - **10b. Risk of Relying on Future Development for Economic Vitality**
 - **10c. Ability of City to Operate and Maintain Improvements.**

Assessment Tables

There are now three performance measure assessment tables, described below.

- **Cross Section Alternatives.** The layout of this table has not changed since the last meeting. It shows:
 - Select illustrative cross sections and their resulting Right-of-Way (r.o.w.) widths, which we have been discussing at CTF meetings since May 2013.
 - The illustrative cross sections represent select alternatives for the different lane configuration alternatives (4 lanes, 4 lanes plus transit, 6 lanes, 6 lanes plus transit), formerly called “concept families” in our previous discussions.
 - The illustrative cross sections are made up of combinations of selected street cross section elements.
 - New and updated performance measures and assessments.

The other two performance assessment tables were developed in response to the CTF ideas and discussion at the June 20 meeting. They focus on depicting and assessing cross sections in new ways:

- **Lane Configuration Alternatives (new).** This table strips down the different lane configurations (4 lanes, 4 lanes plus transit, 6 lanes, 6 lanes plus transit) to include the basic combinations of:
 - travel lanes, and dedicated transit lanes (for the ‘plus transit’ configurations),
 - bike lanes,
 - sidewalks,

- landscaped pedestrian buffers, and
- medians.

The lane configuration illustrations are also provided in a separate file in a larger size than they appear in the assessment table. Each range of widths shown represents the possibilities of combining all the narrowest, to all the widest, street cross section elements.

Assessments: Cross Section Alternatives table provides the following:

- Assessments of select performance measures, which require a complete cross section design in order to assess performance. These will have some form of rating, from '+++' to '- - -'.
 - References to assessments performed in either the ***Street Cross Section Alternatives*** table or the ***Street Cross Section Elements*** table. This is due primarily to the fact that the *Lane Configuration Alternatives* are representative of ranges of combinations. These performance measures need a certain level of detail – such as specific width – in order to be assessed. That level of detail is included in the specific individual elements covered in the *Street Cross Section Element* table, or in the pre-assembled *Cross Section Alternatives* table, wherein each element in the cross section has a specified width.
- ***Street Cross Section Elements (new)***. A new table that shows different options for some elements that make up the street cross sections: sidewalks, transit lanes, and bike lanes. This is meant to show different options available, and their related widths, for the individual elements. The elements that are included are only those that have a direct relationship to the assessment of a performance measure. For example, bicycle lane width and configuration, as illustrated in the *Elements*, is the determining factor for measure 2a. Separation of Bikes and Arterial Traffic.

A range in widths is mentioned for each type of element. This range of widths was used in the calculation of the ***Lane Configuration Alternatives*** ranges of widths.

- *Sidewalks*. There are 6 options shown for sidewalk elements, which reflect a prism from basic City standards to the largest sidewalk width plus largest landscape option. This element ranges in widths from 6'-24'.
- *Transit lanes*. There are 2 options provided for the transit lanes, a 26' center-running option, and a 11'-12' Side- or center-running lane. The options shown reflect a range in widths from 22'-26', as a transit lane in each direction would be provided.
- *Bike lanes*. There are 2 options, for a basic bike lane, or bike lane with buffer. The options shown reflect a range in widths from 5'-9' for this element.

Assessments: Street Cross Section Elements table includes:

- Assessments for select performance measures related to street cross section elements that can be assessed at the current level of design in our planning and design phase.
- References to either the ***Lane Configuration Alternatives*** or the ***Street Cross Section Alternatives*** where those performance measures require a complete cross section design in order to assess performance.

For example: **1e. Pedestrian Crossings.** This performance measure is assessed by the distance and quality of the pedestrian crossing.

- In the ***Lane Configuration Alternatives*** table, assessments of the configuration types are scored based on the distance of crossings (roadway width) and presence of medians.
- In the ***Street Cross Section Elements*** table, a reference is made to see the assessments in the ***Lane Configuration Alternatives*** table. This is because the individual element cannot be assessed.
- In the ***Street Cross Section Alternatives*** table, all of the assessments included for each alternative fall within the range of assessment scores provided in the ***Lane Configuration Alternatives*** table. This is because each cross section alternative has more specific details (e.g., widths) that allows for a refined assessment score.

Conclusion

While this is a large set of materials, the design team believes that this is more comprehensive and begins to make the alternative design approaches that affect the performance of the possible future street designs more evident. Also, it more accurately stresses the design elements or lane configurations that affect performance assessment for important measures, such as pedestrian, bicycle, and transit functionality. We look forward to discussing these materials with the CTF at the July meeting and beginning to distill the information for the fall public meeting.